

Date: Thu, 21 Jul 94 04:30:19 PDT
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V94 #232
To: Ham-Ant

Ham-Ant Digest Thu, 21 Jul 94 Volume 94 : Issue 232

Today's Topics:

CT:Re: SWR vs Frequency Excursions
Experience with R7
VHF SWR meter

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

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(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 19 Jul 1994 20:04:01 GMT
From: ihnp4.ucsd.edu!swrinde!gatech!asuvax!chnews!scorpion.ch.intel.com!
cmoore@network.ucsd.edu
Subject: CT:Re: SWR vs Frequency Excursions
To: ham-ant@ucsd.edu

In article <6e.1331.719.0N6666E7@cencore.com>,
Forrest Gehrke <forrest.gehrke@cencore.com> wrote:

>
>Yes, we can't <always> make assumptions about transmission lines
>even though we can get away with it most of the time.
>Forrest Gehrke, k2bt

Hi Forrest, I have a real-live horror story about this subject. I was
running 35w on 440 into a 2x4max with 50 ft of 9913 and an SWR very
close to 1/1. One day I dropped down 2 'S' units 50 miles away. I was
still generating 35w and my SWR had not changed from the near 1/1 as
far as I could tell. I had gotten water in the coax and after boiling
it there was no reflected power, just like a dummy load.

Moral is, you can't tell a very good system with an SWR of 1/1 from a very bad system with an SWR of 1/1. If my friend had not noticed my drop in signal strength, I might not have either.

Here's a question for you. What's the SWR with a $50 + j0$ antenna on 440 MHz using 100 ft of RG-58... 1/1 of course. What's the SWR without the antenna attached? Would you believe 1.1/1?

73, Cecil, KG7BK, 00TC (Not speaking for Intel)

Date: Wed, 20 Jul 1994 16:57:36 GMT
From: fluke!chuckb@beaver.cs.washington.edu
Subject: Experience with R7
To: ham-ant@ucsd.edu

>
>
>I have had my R7 since they first came out (late '91?). I run a KW into
>it on all bands 40 thru 10 (well, except 30, where there IS a power
>limitation) and I have never had a trap failure - not even heard of
>anyone having a trap failure. Also the SWR curves for my installation
>match (or in some cases are better than) those published by Cushcraft.
>
>Reid, NZ8K

I blew up the 20 meter trap and a small capacitor in the black box while driving my R7 with 1.5 kW. I ordered a replacement trap and the new one was a completely different design. An engineer at Cushcraft told me that the 20 meter trap was the weak link in the antenna and they needed to redesign it.

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Fluke Corporation / MS 232E / PO Box 9090 / Everett WA 98206-9090

Date: Wed, 20 Jul 1994 17:34:44 GMT
From: ihnp4.ucsd.edu!sdd.hp.com!hp-pcd!hpcvsnz!tomb@network.ucsd.edu
Subject: VHF SWR meter
To: ham-ant@ucsd.edu

Steve Bertsch (sbertsch@magnus.acs.ohio-state.edu) wrote:
: Can someone point me to any construction articles on VHF SWR meters? It
: doesn't have to be fancy, or even provide any calibrated power readings;
: the only requirements are that it works on 2 meters and is useable at

: low powers, in the 2 to 6 watt range (for an HT). I only need something
: to trim antennas.

In several of the ARRL pubs (VHF manual, probably the FM and repeaters manual, maybe even the handbook) there's a "plumber's delight" directional coupler described. You need some way to get a known 1:1 SWR to calibrate it for directivity, and some sort of accurate power meter to calibrate for power, but if you can do that (and at least the 1:1 should be pretty easy if you have a long piece of lossy cable of the impedance you want to calibrate for), it should provide good accuracy. It works very much like the Bird meters, with a "slug" that fits into the line. The line is made from copper tubing fittings: a "T" is used to insert the probe into the line. Since half the work (or more) of making one is getting the parts and figuring out how to put them all together, it should be only marginally more effort to do a pair, and that would let you monitor both forward and reflected at the same time, and you could put that info into a calculating SWR circuit, to directly display SWR instead of fwd and refl powers.

73, K7ITM

Date: Wed, 20 Jul 1994 23:18:26 GMT
From: news.Hawaii.Edu!kahuna!jeffrey@ames.arpa
To: ham-ant@ucsd.edu

References <303err\$3@eis.wfunet.wfu.edu>, <CsyC64.1LM@news.Hawaii.Edu>,
<30jaq8\$gsf@eis.wfunet.wfu.edu>
Subject : Re: Free antenna tuner (was: need 80 meter dipole help)

In article <30jaq8\$gsf@eis.wfunet.wfu.edu> matthews@ac.wfu.edu (Rick Matthews) writes:

>Jeffrey Herman (jeffrey@kahuna.tmc.edu) wrote:

>

>: Sigh. Rick, plug in your soldering iron; here's a tuner for 'nothing':

>

>

>Sigh^2.

>

>You assume zero cost for an S0-239 and a HV variable cap. We also

A 365 pf variable cap is as close as the nearest junked AM bcst band radio. I only run QRP (as should everyone else - read the regs!) so no need for an expensive HF cap.

S0-239? Wonder what hams used before those were invented...

>need an SWR bridge left in-line, which means an extra pair of

>PL-259's. (Oops. Does he have an HF SWR bridge? When I first got on
>the air I borrowed one to cut my half-wave dipoles. An SWR bridge
>should be one of the first purchases of a new ham, but on a twelve-
>year-old's budget, somehow the transmitter and receiver seemed more
>important.)

They're nice to have but one can do quite well by tuning the tuner
with just the receiver inline (uh oh - I can hear the screams
already!) Many easy-to-build SWR meters and watt meters have
appeared in the various publications. If one does enough digging
in dumpsters there's no need to buy *anything*! All the components
for my transmitters came out of junked TV sets and broken AM/FM
radios.

The simple homebrew methods still work amazingly well.

Jeff NH6IL
jeffrey@math.hawaii.edu

End of Ham-Ant Digest V94 #232
